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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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TM31/1103
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EXAMINER

RAMAKRISHNAIAH, M

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 11/03/00

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/833,511

Applicant(s)
Lester F. Ludwig.

Examiner
Melur Ramakrishnaiah

Group Art Unit
2643



☒ Responsive to communication(s) filed on Aug 25, 2000.

☒ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-7, 9, 11-15, and 25-32 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-7, 9, 11-15, and 25-32 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 25

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. (US PAT. 5,365,265, filed 7-15-1992, hereinafter Shibata) in view of Larson (US PAT. 5,821,987, continuation of Ser. No. 903231, June 23, 1992, abandoned) and Hirano et al. (US PAT. 5,396,554, filed 5-13-1992, hereinafter Hirano).

Regarding claim 1, Shibata discloses multipoint teleconference system employing communication channel set in ring configuration comprising: audio and video capture devices (210,200- fig. 2), for capturing video images and spoken audio of a participant in a video conference, a monitor in 200 for displaying video images associated with at least one participant, audio reproduction devices (fig. 2 col. 3 lines 66-68, col. 4 lines 1-20).

Shibata differs from the claimed by not showing the following: a unitary housing and an adaptive echo canceler, wherein the audio capture and reproduction devices are integrated into the unitary housing in a fixed spatial relationship with respect to each other and cooperate with the adaptive echo canceler to reduce echo during the reproduction of the audio.

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However, Larson discloses videophone for simultaneous audio and video communications via a standard telephone line which teaches a unitary housing with audio capture and reproduction devices integrated into the unitary housing in a fixed spatial relationship with respect to each other (fig. 8A, col. 26 lines 5-67, col. 23 lines 1-3).

Hirano discloses multichannel echo canceling method and apparatus which teaches an adaptive echo canceler (fig. 3, col. 21 lines 42-67, col. 22 lines 1-10).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Shibata's system to provide for the following: a unitary housing as this would provide a compact arrangement for video conference and an adaptive echo canceler, wherein the audio capture and reproduction devices are integrated into the unitary housing in a fixed spatial relationship with respect to each other and cooperate with the adaptive echo canceler to reduce echo during the reproduction of the audio as this would facilitate clear audio reception for the benefit of conference participants.

Regarding claim 2, Shibata shows the following: receive the captured audio of first, second and third participant, combine the received audio of the second and third participants into an audio sum, and reproduce the audio sum at an apparatus of the first participant (figs. 2-5, col. 4 lines 42-68, col. 5 lines 1-38).

Regarding claim 3, Shibata shows the following: speaker represented by 210 and wherein the apparatus is further associated with an audio control configured to cause reproduction of the audio sum at the first participant's workstation, such that the composition of the audio,

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originating from each of the second and third participants reproduced at each speaker is dependent on a position of the second and third participant's images reproduced on the first participants's monitor (figs. 3-4, col. 4 lines 64-68, col. 5 lines 1-38).

Regarding claim 3, Shibata does not show plurality of speakers.

However, Hirano teaches use of plurality of speakers (see fig. 3).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Shibata's system to provide for plurality of speakers as this would facilitate conferees to obtain better audio quality of sound as taught by Hirano.

Regarding claim 4, Shibata does not show at least two echo cancelers.

However, Hirano teaches the use of echo canceler (fig. 3, col. 21 lines 42-67, col. 22 lines 1-10).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Shibata's system to provide for at least two echo cancelers as this arrangement would provide better echo management, thus providing superior audio quality for conferees.

3. Claims 5, 6, rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of in view of Larson and Hirano as applied to claim 2 above, and further in view of Feiner et al. (US PAT. 5,363,441 continuation of Ser. No. 993,063, 12-31-92, hereinafter Feiner)

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Regarding claim 5, 6, the combination does not show the following: a wireless communication connection configured to accept signals transmitted along cellular telephone channels.

However, Feiner discloses technique for reducing echos in conference communications which teaches use of wireless communication connection configured to accept signals along wireless channels (Fig. 1 col. 2 lines 36-43).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for a wireless communication connection configured to accept signals transmitted along cellular telephone channels as this would offer independence and freedom to move the housing without being constrained by the availability of communication connection and also would enable to receive cellular calls.

4. Claims 7, 9, 11, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of Larson, Hirano, Flohr (US PAT. 5,374,952, the subject matter claimed is in the parent application filed on 6/3/1993, and Conway (US PAT. 5,444,476 filed 12-11-92).

Regarding claims 7, Shibata shows the following: a plurality of workstations as shown in fig. 1, each including:, a first monitor represented by 200 for displaying participant video images, audio and video capture devices represented by (210,200) for capturing video images and spoken audio of participants, audio reproduction devices, and an audio and video path (circuits-1, circuit-2), for carrying AV signals representing video images and spoken audio of the participants,

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among the work stations, for reproduction on at least one monitor associated with the workstation of one of the participants (figs. 1-2, col. 3 lines 66-68, col. 4 lines 1-20).

Shibata differs from the claimed invention by not teaching the following: unitary housing, an adaptive echo canceler, wherein the audio capture and reproduction devices are integrated into the unitary housing in a fixed spatial relationship with respect to each other and cooperate with the adaptive echo canceler to reduce echo during the reproduction of the audio, and a data path along with data can be shared among a plurality of the participants to be displayed interactively on the monitor, and use of two monitors to display data interactively.

However, Larson discloses videophone for simultaneous audio and video communications via a standard telephone line which teaches a unitary housing with audio and capture and reproduction devices are integrated into the unitary housing in a fixed spatial relationship with respect to each other (fig. 8A, col. 26 lines 5-67, col. 23 lines 1-3).

Hirano discloses multichannel echo canceling method and apparatus which teaches an adaptive echo canceler (fig. 3, col. 21 lines 42-67, col. 22 lines 1-10).

Flohr teaches the use of LAN cable 100 that provides data path along which data can be shared among a plurality of participants and displayed on the monitor (Fig. 8, col. 13 lines 19-37).

Conway teaches the use of two monitor for displaying data interactively (fig. 1, col. 5 lines 18-68, col. 6 lines 1-68, col. 7 lines 1-15).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Shibata's system to provide for the following: unitary housing as this would

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provide an compact arrangement for video conference and an adaptive echo canceler, an adaptive echo canceler, wherein the audio capture and reproduction devices are integrated into the unitary housing in a fixed spatial relationship with respect to each other and cooperate with the adaptive echo canceler to reduce echo during the reproduction of the audio as this would facilitate clear audio reception for the benefit of conference participants, a data path along with data can be shared among a plurality of the participants to be displayed interactively on the monitor as this would provide an economical way of transmitting data using low bandwidth network, and use of two monitors to display data interactively as this would enable greater teleinteraction among the participants as taught by Conway.

Regarding claim 9, Shibata shows one monitor (Fig. 2), does not show a second monitor arranged adjacent to the first monitor at approximately the eye-level of a participant in teleconference.

However, Conway teaches the use of two monitors for displaying data (fig. 1, col. 5 lines 18-68, col. 6 lines 1-68, col. 7 lines 1-15).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Shibata's system to provide for a second monitor, second monitor arranged adjacent to the first monitor at approximately eye level of a participant in a teleconference as this would enable greater teleinteraction among the participants as taught by Conway.

Regarding claim 11, Shibata teaches the following: receive the captured audio of first, second and third participant, combine the received audio of the second and third participants into

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an audio sum, reproduce audio sum at the apparatus of the first participant (figs. 2-5, col. 4 lines 42-68, col. 5 lines 1-38).

Regarding claim 12, Shibata shows the following: speaker in 210, wherein the apparatus is further associated with: an audio control configured to cause the reproduction of audio sum at first participants workstation such that the composition of audio, originating from each of the second and third participant, reproduced at each speaker of the first participant's apparatus is dependent on a position of the second and third participant's images reproduced at on a first participant's monitor (figs. 2-5, col. 4 lines 42-68, col. 5 lines 1-38); but he does not show plurality of speakers.

However, Hirano teaches use of plurality of speakers (see fig. 3).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Shibata's system to provide for plurality of speakers as this would facilitate conferees to obtain better audio quality of sound as taught by Hirano.

Regarding claim 13, Shibata does not show at least two echo cancelers.

However, Hirano teaches the use of echo canceler (fig. 3, col. 21 lines 42-67, col. 22 lines 10).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Shibata's system to provide for at least two echo cancelers as this arrangement would provide better echo management, thus providing superior audio quality for conferees.

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5. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of Larson , Hirano, Flohr and Conway as applied to claim 7 above, and further in view of Fiener.

Regarding claims 14-15, the combination does not show the following: a wireless communication connection between the workstation and the audio and video path, wireless communications configured to accept signals transmitted along cellular telephone channels.

However, Feiner discloses technique for reducing echos in conference communications which teaches use of wireless communication connection configured to accept signals along wireless channels (Fig. 1 col. 2 lines 36-43).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for a wireless communication connection between the workstation and the audio and video path, wireless communications configured to accept signals transmitted along cellular telephone channels as this would offer independence and freedom to move the housing without being constrained by the availability of communication connection and also would enable to receive cellular calls.

6. Claims 25-26 and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. (US PAT. 5,365,265, filed 7-15-1992, hereinafter Shibata) in view of Larson (US PAT. 5,821,987, continuation of Ser. No. 903231, June 23, 1992, abandoned) and Hirano et al. (US PAT. 5,396,554, filed 5-13-1992, hereinafter Hirano).

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Regarding claims 26 and 30, Shibata teaches apparatus that uses digital audio video networking (col. 3 lines 46-56).

Regarding claims 25 and 29, Shibata does not teach an apparatus that uses analog audio and video networking.

However, Larson teaches an apparatus (10, fig. 1) that uses analog audio and video networking.(12) (fig. 1, col. 8 lines 45-59).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Shibata's system to provide for an apparatus that uses analog audio and video networking as this would provide versatility to use the apparatus in different networks, thus enhancing its usability.

7. Claims 28 and 32, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of Larson Hirano. as applied to claims 1 and 7 above, and further in view of Nakajima (JP362091045A).

Regarding claims 28 and 32, the combination does not teach unitary housing capable of being mounted on a side of a monitor of compatible size as the unitary housing.

However, Nakajima teaches unitary housing capable of being mounted on a side of a monitor of compatible size as the unitary housing (fig. 1 see abstract).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for unitary housing capable of being mounted on

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a side of a monitor of compatible size as the unitary housing as this would enable better display of pictures using both displays as taught by Nakajima.

8. Claims 27 and 31, are rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata in view of Larson and Hirano. as applied to claims 1 and 7 above, and further in view of Lewen et al. (US PAT: 5,531,374, hereinafter Lewen).

Regarding claims 27 and 31, the combination does not teach apparatus that uses audio video networking device via unshielded twisted pair.

However, Lewen teaches an apparatus (55, fig. 1) that uses audio video networking device via unshielded twisted pair (fig. 1, col. 6 lines 22-24).

Thus, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify the combination to provide for an apparatus that uses audio video networking device via unshielded twisted pair as this would provide another alternative well-known transmission medium for communications.

Response to Arguments

9. Applicant's arguments filed on 8-25-2000 have been fully considered but they are not persuasive.

Regarding independent claims 1 and 7, applicant argues that "the Examiners rejection based upon the combination of Hirano and Larson does not address a proper motivation to combine the references". As already stated in the office action, Larson discloses videophone for simultaneous audio and video communications via a standard telephone line which teaches a

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unitary housing with audio capture and reproduction devices integrated into the unitary housing in a fixed spatial relationship with respect to each other (fig. 8A, col. 26 lines 5-67, col. 23 lines 1-3).

Hirano discloses multichannel echo canceling method and apparatus which teaches an adaptive echo canceler (fig. 3, col. 21 lines 42-67, col. 22 lines 1-10).

The motivation to combine these references would be obvious to one skilled in the art as this would provide means to combat pernicious effects of echo in audio reproduction of conference apparatus of Larson, thus providing better audio reproduction for conferees of the video conference. Since combination of Shibata, Larson and Hirano teach claim limitations of independent claims 1 and 7, the rejection of the claims is maintained. The rejection of dependent claims 2-6 and 9, 11-15 is already detailed in the office action dated 2-25-00.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melur Ramakrishnaiah whose telephone number is (703) 305-1461. The examiner can normally be reached on Monday to Friday from 7 AM to 4 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached on (703) 305-4708. The fax phone number for this Group is (703) 305-9508.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

12. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

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(703) 308-6306, (for formal communications intended for entry)

Or:

(703) 305-9508 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).


CURTIS KUNTZ
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